	Application No.	**Applicant(s)**	
Notice of Allowability	09/900,395	OPHIR, LIOR	
	Examiner	**Art Unit**	
	Dac V. Ha	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed on 02/14/05*.

2. ☒ The allowed claim(s) is/are *1,3-17 and 19*.

3. ☒ The drawings filed on *14 February 2005* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Dac V. Ha
Primary Examiner
Art Unit: 2634

Allowable Subject Matter

1.   Claims 1, 3-17, 19 are allowed.

2.   The following is a statement of reasons for the indication of allowable subject

matter:

Applicant has amended the claims in compliance with the office action dated

11/10/04. Namely, independent claims 1 and 14 have been amended to include the

claimed subject matter of claims 2 and 18, respectively. Newly dependent claim 19 has

been added. The present invention relates to method and apparatus of combining

either turbo trellis coded modulation (TTCM) or trellis coded modulation (TCM) with

constellation shaping with/without precoding when using concatenated coding schemes.

Trellis coded modulation has been known in the art of for a number of advantages.

Prior art of record (closest references, Paik et al. – US 5,321,725 and (Seshadri et al. –

US 6,584,593) taking alone or in combination, fails to fairly teach particular method of

binary coded data, as claimed, including "partitioning the desired inner bit stream into a

first binary coded bit stream having K-bits, a second binary coded bit stream having

N*k-bits, (where k complies with a rate k/n inner code), and a third binary coded bit

stream having the remaining bits; processing the second binary coded bit stream via the

inner encoder to generate a code selected from the group consisting of (a TTCM code

and a TCM code); processing the first binary coded bit stream via the constellation

shaping element to generate N shells; and mapping the selected code, the N shells, and

the remaining bits via the mapping element to generate the plurality of N symbols,

wherein the remaining bits are operational to select between multiple cosets within each

shell, wherein N, n K and k are integers" in independent claim 1 and similarly in independent claim 14 (claims 3-17, 19 depend therefrom). Thus, claims 1, 3-17, 19 are found to be novel and unobvious over prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dac V. Ha
Primary Examiner
Art Unit 2634